Unincorporated Town of Jackpot

Water Conservation Plan

November 18, 2009

Prepared for:

Jackpot Water System
c/o Elko County Public Works Department
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Introduction

The water supply in Nevada is a precious commodity and plays an important role in determining Nevada's future. Nevada is the one of the driest states in the nation as well as one of the fastest growing ones. Nevada's future, both from an economic and a quality of life view, depends heavily upon the wise management of the water supply.

Groundwater, in general, provides about 40 percent of the total water supply used in Nevada. In some areas, groundwater provides the entire water supply. Groundwater usage may vary considerably from year-to-year as it is sometimes pumped to supplement surface water sources.

Water use in Nevada can be classified as:

- Domestic (household, both indoor and outdoor) – Met by public supply or private supply (e.g. wells).
- Commercial (businesses) – Met by public supply or private supply (e.g. non-community systems).
- Industrial (manufacturing/construction) – Met by public supply or private supply (e.g. non-community systems).
- Thermoelectric (electric/fossil fuel/geothermal power generation) – Met by public supply in a minor fraction.
- Mining (mining processes) – Supply source varies widely from operation to operation and is dependent upon the mineral being recovered and the recovery process employed.
- Irrigation (land use) – Met by self-supplied or supplied by irrigation companies or districts.
- Livestock (farm needs) – Supply source varies.

While all classifications of water usages have shown an increase over the years, it has historically been irrigation water use which has accounted for the majority of the water use in Nevada.

It has been estimated that the domestic water use accounts for less than 15 percent of the water used in Nevada, but this is expected to rise to nearly 25 percent as the population increases (based upon existing water use patterns and conservation measures). It is expected that Nevada's population will become increasingly concentrated in its primary urban areas of Las Vegas (Clark County), Reno/Sparks (Washoe County) and Carson City, with varied spillover effects on neighboring counties.

It is vitally important that all residents understand the fundamental science of water, how it is managed in the state, and the issues affecting its management. Water education must become a priority and must include education of children as they are our future.

Because Nevada does not have a comprehensive state-wide conservation program, it is reliant upon the individual water suppliers for developing their own conservation programs. In 1991,

Nevada enacted a law requiring adoption of conservations plans by water suppliers. Minimum standards for plumbing fixtures were adopted in 1991 (Assembly Bill 359) by Nevada and in 1992 minimum flow standards for plumbing fixtures were adopted by the federal government (National Energy and Policy Conservation Act).

Conservation is an essential part of ensuring adequate water supply as it is no longer feasible to develop new sources. It has proven to be a cost-effective way to reduce demands and/or to extend a given water supply. It can easily be pursued by all water users regardless of the water system type. Key to evaluating the program's effectiveness is the water use measurement (through meters and other measurement devices). Various conservation measures can be put into place and the achievement of the goals set with these measures is vital to combating the expected increase in water usage.

Statutory Requirements

This water conservation plan was prepared for Jackpot Water System in accordance with Nevada Revised Statue (NRS) 540. As outlined in NRS 540.141, the provisions of this plan must include:

a. Public Education
b. Conservation Measures
c. Water Management
d. Contingency Plan
e. Schedule
f. Evaluation Measurements
g. Conservation Estimates

In addition to the provisions of the water conservation plan, listed above, NRS 540.141 also requires a rate analysis to be performed and included with the submittal.

This plan is being submitted to the Nevada Department of Conservation and Natural Resources (DCNR), Division of Water Resources (DWR) for review and approval prior to its adoption by Jackpot Water System as required by NRS 540. This plan is available for inspection during normal business hours at the Elko County Public Works Department located at 155 So. 9th Street, Elko, NV 89801 as well as on the Elko County website at www.elkocounty.nv.net.

This is the first Water Conservation Plan for Jackpot Water System. No previous plans have been submitted to DWR.

In accordance with NRS 540.131, this plan will be reviewed from time-to-time to reflect changes and must be updated every five (5) years to comply with NRS 540.131 and NRS 540.141. The next update of this plan is to be on, or before, January 6, 2015.

System Description

Jackpot Water System is a public water system (NV0000088) and has a current water operation permit. Jackpot Water System serves 97 flat rate customers (44 residential and 33 commercial) customers in its service area of the unincorporated town of Jackpot, which is located in Elko County. The service area encompasses the entire town of Jackpot which is approximately two (2) square miles. The service area's terrain is sloping (south to north) hills on the edges of the boundary.

The estimated population served in 2009 is 1,250. Jackpot Water System estimates that its customer base will increase by 3% each year for the nine (9) years. The State of Nevada, through its State Water Plan, estimates the population growth for Elko County to be about 2.35% through 2020.

The water supply is from wells which are located within the Salmon Falls watershed basin. There are a total of five (5) wells supplying the system and a total of three (3) storage tanks. Each of these is identified in the tables below (Table 1 and Table 2). Well #4 is used only for irrigation of an 18-hole golf course. Well #2 is out of service at this time, for reasons discussed below.

Table 1 – Source of Supply

Well No.	Depth (feet)	Production (gpm)
#1	450	150 gpm
#2	450	450 gpm
#3	450	450 gpm
#4	480	650 gpm
#5	500	2,400 gpm

Table 2 – Storage Tanks

Tank No.	Volume (gallons)
Buried concrete	100,000 gallons
1972 Steel	300,000 gallons
1985 Steel	1,000,000 gallons

Jackpot Water System has been granted water rights in the total amount of 1,474.375 MG per year. The current water rights are listed in the table below (Table 3).

Table 3 – Water Rights

Permit No.	Well No. & Name	Rate of Diversion (max)	Annual Use (max)
22344	Firehouse Well #1	0.33 cfs	38.925 mga
24590	Golf Course Well #4	1.203 cfs	96.434 mga
25427	Abandoned Well #2	0.14 cfs	4.68 mga
26341	Firehouse Well #1	0.33 cfs	38.925 mga
43464	Tennis Court Well #2	1.225 cfs	70.5 mga
45141	Golf Course Well #4	0.791 cfs	47.245 mga
54518	City Park Well #5	3.35 cfs	355.88 mga
55264	City Park Well #5	5.57 cfs	355.88 mga
65879	North Granite Well	1.00 cfs	235.906 mga
67961	Sewer Effluent	0.975 cfs	230 mga

Water is pumped directly into the distribution system and is not treated. Water is distributed to the customers through both ductile iron and PVC piping (main line sizes are 6-, 8-, 10-, 12-, and 16-inch lines). All service connections are PVC or poly tube.

Jackpot Water System requires, at a minimum, a Grade 1 Distribution licensed operator. The plant operator is required to perform monthly monitoring and testing of water quality. Jackpot Water System does not have any outstanding water quality issues and is current with all water testing. The last sanitary survey performed by the Nevada Department of Environmental Protection (NDEP) was completed on June 29, 2007, and shows some outstanding issues with the system. All issues with the exception of the uranium and cross connection found at Well #2 have been corrected. The issues found at Well #2 are being mitigated by taking the well out of service and replacing it (scheduled to be in by June 2010) and a cross connection control program being enacted (will be in ordinance form by June 2010).

Jackpot Water System charges a flat rate of $12.00 per unit. It does not have a tiered rate usage fee. A breakdown of the customer type and charge is found in Table 4, below.

While there is a provision for metered rates for “Laundromats and Laundries” with washing machines over 100 pounds, there are no customers. There are currently no customers being billed metered rates.

Wastewater collected from the service area is treated at a local treatment plant operated by the Town of Jackpot Public Works Department.

Current water rates were established on May 1, 2002. Water rates have been reviewed and are scheduled to be adjusted in 2010.

Table 4 –Customers and Charges

Type	Unit Assigned
Single-family residence	1.0
Multi-family residences	
per dwelling unit	1.0
Room Houses	
per room w/o private bath	0.3
per room w/private bath	0.5
per managers/owners quarters	1.0
Single-family mobile home	1.0
Multi-family mobile home	
per dwelling unit	1.0
Recreational vehicle park	
per space	0.5
Hotels and Motels	
per room	0.3
Laundromats and Laundries	
Up to 12 lb. machine	0.3
13 to 25 lb. machine	0.6
26 to 50 lb. machine	1.0
51 to 100 lb. machine	2.0
Over 100 lb. machine	meter required
Gaming Houses	
per 500 sq. ft.	1.0
Restaurants	1.0
plus per seat	0.1
Bars	1.0
plus per seat	0.1
Stores	1.0
Office Buildings	1.0
plus each additional office	0.3
Doctor/Dentist Office	1.5
Barber/Beauty Shops (for two chairs)	1.0
plus per chair	0.3
Bakery	2.0
Meeting Rooms/Halls	
per 1,000 sq. ft.	1.0
Banquet Rooms	
per 500 sq. ft.	1.0
Churches	1.0
Lodge/Halls (non-profit use)	1.0
Garages and Service Stations	1.0
Car Washes	
per stall	1.5
Schools	
per 20 students	1.0
Swimming Pools	
w/no filter re-circulation	3.0
w/filter re-circulation	0.5
Theatres	
per 30 seats	1.0
Hospitals	
per 6 beds	1.0
Excess lawn areas (over 1,000 sq. ft.)	
per 7,500 sq. ft.	1.0

Plan Provisions

In accordance with NRS 540.131, this plan will be reviewed from time-to-time to reflect changes and must be updated every five (5) years to comply with NRS 540.131 and NRS 540.141. The next update of this plan is to be on, or before, January 6, 2015.

Jackpot Water System will appoint a staff member to oversee the conservation efforts and this staff member will be responsible for implementation of conservation programs, monitoring of water use, and will review /revise the conservation plan when needed.

In an effort to promote voluntary conservation and aid in Nevada's future, Jackpot Water System will enact the voluntary conservation measures found in the ***Conservation Measures*** section. When more stringent measures are needed, Jackpot Water System will enact the measures found in the Contingency Measures section. All measures can be found in Appendix A.

As required by NRS 540.141, the water conservation plan must include the following provisions:

a. Public Education
b. Conservation Measures
c. Water Management
d. Contingency Plan
e. Schedule
f. Evaluation Measures
g. Conservation Estimates

Each provision is discussed below.

Public Education

Public education is a key for cooperation with conservation efforts, so funding for public education is crucial. Jackpot Water System recognizes this and will establish a conservation education program and corresponding budget.

It is the goal of Jackpot Water System to increase public awareness to conserve water, encourage reduction in lawn sizes, encourage the use of climate-appropriate plants, encourage the use of drip irrigation, and encourage conscious decisions for water use.

The conservation education program includes education materials such as bill inserts, pamphlets, flyers, and posters. New customers will be provided these materials when service is established, while existing customers will receive these materials periodically through bill inserts or direct mail. Educational pamphlets will be provided to all customers upon request and should include an explanation of all costs involved in supplying drinking water and demonstrate how the water conservation practices will provide water users with long-term savings. Education materials

should also encourage reduction of lawn sizes, use of drip irrigation, use of climate-appropriate plants, and conservation tips and techniques (see Appendix B).

Customers should also be able to read and understand their water bills. Bills should be informative, going beyond the basic billing information. Bills should include comparisons to previous bills and tips on water conservation that can help customers make informed choices about their water usage. Bill inserts can also include this information.

Jackpot Water System would participate in public outreach opportunities such as Earth Day, provide information at a variety of school programs, participate at workshops for plumbers/suppliers/builders, and could provide incentives for conservation efforts (e.g. plumbing retrofit rebates, water conservation landscaping rebates, etc.). No incentives are planned at this time.

Jackpot Water System could also establish a water conservation advisory committee that would involve the public in the conservation process and provide feedback to the system concerning its efforts, thus fostering support for conservation in the community.

Conservation Measures

In an effort to promote conservation and voluntarily conserve water, Jackpot Water System is adopting water-use regulations to promote water conservation during non-emergency situations. These regulations include the following non-essential water use:

1) Use of water through any connection when Jackpot Water System has notified the customer in writing to repair a broken or defective plumbing, sprinkler, watering or irrigation system and the customer has failed to make such repairs within 5 days after receipt of such notice.
2) Use of water which results in flooding or run-off in gutters, waterways, patios, driveway, or streets.
3) Use of water for washing aircraft, cars, buses, boats, trailers or other vehicles without a positive shut-off nozzle on the outlet end of the hose. Exceptions include washing vehicles at commercial or fleet vehicle washing facilities operated at fixed locations where equipment using water is properly maintained to avoid wasteful use.
4) Use of water through a hose for washing buildings, structures, sidewalks, walkways, driveways, patios, parking lots, tennis courts, or other hard-surfaced areas in a manner which results in excessive run-off or waste.
5) Use of water for watering streets with trucks, except for initial wash-down for construction purposes (if street sweeping is not feasible), or to protect the health and safety of the public.
6) Use of water for construction purposes, such as consolidation of backfill, dust control, or other uses unless no other source of water or other method can be used.
7) Use of water for more than minimal landscaping in connection with any new construction.
8) Use of water for outside plants, lawn, landscape, and turf areas more often than every other day, with even numbered addresses watering on Tuesday, Thursday, Saturday

and odd numbered addresses watering on Sunday, Wednesday and Friday. There will be no watering of outside plants, lawn, landscape and turf areas on Mondays, except that this provision shall not apply to commercial nurseries, golf courses and other water-dependent industries. Watering of plants, lawn, landscape, and turf areas are prohibited between the hours of 8:00 am and 6:00 pm.

9) Use of water for watering outside plants and turf areas using a hand-held hose without a positive shut-off valve.
10) Use of water for decorative fountains or the filling or topping off of decorative lakes or ponds. Exceptions are made for those decorative fountains, lakes, or ponds which utilize recycled water.
11) Use of water for the filling or refilling of swimming pools.
12) Service of water by any restaurant except upon the request of the patron.

In the event these conservation measures are insufficient to control the water shortage, Jackpot Water System may wish to implement the mandatory measures discussed in the ***Contingency Plan*** section below.

Jackpot Water System also promotes the development of water conserving principles into the planning, development, and management of new landscape projects such as public parks, building grounds, and golf course. Customers are encouraged to consult with the local nursery or perform an internet search on the availability of water conserving plants and how to renovate existing landscapes. Customers are also encouraged to evaluate irrigation management systems using metering, timing, and water sensing devices.

Jackpot Water System currently has no provision for conservation incentives at this time. Jackpot Water System will re-evaluate conservation incentives in the future and will implement them when necessary:

Water Management

Jackpot Water System monitors and records water levels at tank sites and will investigate leakages if tank levels are dropping.

There are no adjacent water purveyors available to help maintain or ensure adequate water supplies are available.

Jackpot Water System does not currently monitor unaccounted for water losses. Jackpot Water System does not have a leak detection program. All leaks are repaired as soon as found.

Jackpot Water System intends to implement both a leak detection program and unaccounted for water program after meters are installed in 2010.

Jackpot Water System does not have a meter replacement program as no customers are metered. It will implement one after customers are metered.

A residential metering program will be implemented in 2010, requiring water meters to be installed on all customers. These meters will be read for six (6) months to obtain usage information and then a quantity rate will be set.

A capital improvement plan is in place, is currently being funded through rates, and there are plans to replace distribution lines at their anticipated useful life.

Jackpot Water System does not have a system for using sewer effluent. Effluent is treated by a separate entity and may be reused for agricultural purposes. There are plans in the future to reuse effluent for golf course irrigation and public landscaping. These plans will be addressed in future revisions of this conservation plan.

Elko County has adopted the International Building and Plumbing Codes which applies to structures which are renovated as well as all new construction. This ordinance is furnished to local suppliers and contractors. The Elko County Public Works Department checks new construction, renovation, and expansions within Elko County to ensure compliance with this ordinance.

Contingency Plan

The objective of the contingency plan would be to manage the available resources to ensure continued supply of potable water during periods of drought or extended drought.

It is envisioned that voluntary conservation will be sufficient to ensure an adequate supply of water and reduce water usage. However, if a sustained drought (lack of precipitation) is encountered, it may be necessary to implement mandatory restrictions in order to ensure an adequate supply of water to meet essential needs.

Jackpot Water System plans for drought response would be three (3) stages of drought response: (1) warning stage, (2) alert stage, and (3) emergency stage. The stages are describes as follows:

In Stage 1, the warning stage, Jackpot Water System would increase monitoring of its water supplies and would begin creating public awareness of the water supply situation and the need to conserve. Conservation measures at this stage would be voluntary. Retrofit kits (low-flow faucet aerators, low-flow showerheads, leak detection tables, and replacement flapper valves) can be made available, at cost, and can be actively distributed, if needed.

In Stage 2, the alert stage, Jackpot Water System would call for wide-based community support to achieve conservation, limit the use of fire hydrants to fire protection uses (by requiring effluent for construction and dust control purposes), implement water use restrictions, and impose penalties for ignoring the restrictions. Conservation measures at this stage would be mandatory and violations would incur fines.

In Stage 3, the emergency stage, Jackpot Water System would declare a drought and water shortage emergency, would enforce water use restrictions, impose fines for violations, implement allocation of water (rationing), and impose higher fees for water usage. Media relations would

be activated in order to inform the customers and monetary assistance may need to be secured in an effort to mitigate the effects of the drought (e.g. federal funding assistance). Conservation measures at this stage would be mandatory, rationing would be imposed, violations would incur fines, and over-use would be penalized by higher rates.

When a drought is declared over, voluntary conservation measures (see ***Conservation Measures*** section) will be reinstated and water supplies would continue to be monitored.

Schedule

All of the provisions listed will be in place by the end of 2010 and will be actively working to achieve results. Provisions will be monitored for effectiveness and be adjusted accordingly.

It is anticipated that meters will be in place by October 2010, thus giving Jackpot Water System a better basis for conservation approaches and will allow for setting of more realistic goals.

Evaluation Measurements

More accurate determinations of water loss and conservation components will become available as metering nears completion.

In addition to changes resulting from audits, updates, and modifications to conservation measures/incentives there will be changes made to meet changing conditions (e.g. customer growth and demand, changing use, new technologies, etc.).

As a plan element is activated (e.g. mailing literature or declaring a drought stage), production figures will be compared to same-month historical data to estimate the plan element's effectiveness. This information will be utilized as a basis for any future water conservation plan revision and plan elements.

Conservation Estimates

It is estimated that metering alone will be the major driver of conservation, by raising awareness of individual account use and can be expected to provide a 20% reduction in water use.

During the Stage 1 phase of the conservation plan, it is estimated that conservation measures could be expected to provide a 10 to 15% reduction in water use.

During the Stage 2 phase of the conservation plan, it is estimated that conservation measures could be expected to provide a 15 to 25% reduction in water use.

During the Stage 3 phase of the conservation plan, it is estimated that conservation measures could be expected to provide a 25 to 50% reduction in water use.

The estimated water savings for various end-user efforts can be found in Appendix C.

Rate Analysis

The charging of variable rates for the use of water has sometimes been shown to encourage conservation of water, but not in all systems. Oftentimes the end-user will continue to pay increasing block rates out of necessity for the water used. The use of variable water rates needs to be evaluated on a case-by-case basis.

Jackpot Water System will be implementing universal metering in 2010 and will evaluate water rates after having a usage history of 6 months. Jackpot Water System will continue to monitor the water usage and will re-visit this issue each time rates are reviewed. If so warranted, a change in rates will occur and this conservation plan will be updated to reflect the new rates.

Appendices

APPENDIX A
CONSERVATION MEASURES

Stage 1 – Warning Stage

1. Jackpot Water System would increase monitoring of water supplies.
2. Jackpot Water System would begin creating public awareness of the water supply situation and the need to conserve.
3. Jackpot Water System would inform customers of voluntary conservation measures (non-essential water uses, listed below).
4. Jackpot Water System would provide customers with retrofit kits either at cost or free.

Non-essential water uses are:

1) Use of water through any connection when Jackpot Water System has notified the customer in writing to repair a broken or defective plumbing, sprinkler, watering or irrigation system and the customer has failed to make such repairs within 5 days after receipt of such notice.
2) Use of water which results in flooding or run-off in gutters, waterways, patios, driveway, or streets.
3) Use of water for washing aircraft, cars, buses, boats, trailers or other vehicles without a positive shut-off nozzle on the outlet end of the hose. Exceptions include washing vehicles at commercial or fleet vehicle washing facilities operated at fixed locations where equipment using water is properly maintained to avoid wasteful use.
4) Use of water through a hose for washing buildings, structures, sidewalks, walkways, driveways, patios, parking lots, tennis courts, or other hard-surfaced areas in a manner which results in excessive run-off or waste.
5) Use of water for watering streets with trucks, except for initial wash-down for construction purposes (if street sweeping is not feasible), or to protect the health and safety of the public.
6) Use of water for construction purposes, such as consolidation of backfill, dust control, or other uses unless no other source of water or other method can be used.
7) Use of water for more than minimal landscaping in connection with any new construction.
8) Use of water for outside plants, lawn, landscape, and turf areas more often than every other day, with even numbered addresses watering on Tuesday, Thursday, Saturday and odd numbered addresses watering on Wednesday, Friday, Sunday, no outside watering will be allowed on Monday, except that this provision shall not apply to commercial nurseries, golf courses and other water-dependent industries. Watering of plants, lawn, landscape, and turf areas are prohibited between the hours of 8:00 AM and 6:00 PM.
9) Use of water for watering outside plants and turf areas using a hand-held hose without a positive shut-off valve.
10) Use of water for decorative fountains or the filling or topping off of decorative lakes or ponds. Exceptions are made for those decorative fountains, lakes, or ponds which utilize recycled water.
11) Use of water for the filling or refilling of swimming pools.
12) Service of water by any restaurant except upon the request of the patron.

Stage 2 – Alert Stage

1. Jackpot Water System set conservation goals and call for wide-based community support to achieve those goals.
2. Jackpot Water System would inform customers of mandatory conservation measures (non-essential water uses, listed in Stage 1 are now mandatory).
3. Jackpot Water System would inform customers of penalties if mandatory conservation measures are not observed (penalties are listed below).
4. Jackpot Water System would inform customers of mandatory conservation water fees.
5. Jackpot Water System limit the use of fire hydrants to fire protection uses only.
6. Jackpot Water System would provide customers with retrofit kits either at cost or free.

Penalties for violation of mandatory conservation measures are:

1st violation – written warning.
2nd violation – $ 100.00
3rd violation – $ 200.00
4th violation – restrictor plates mandatory.

Offenses for separate water use restriction violations will each start at the warning stage (1st violation) and the penalties for the offenses are in addition to the regular rate schedule charges.

A flow restrictor can be installed if the customer is non-responsive after the 1st violation. The flow restrictor shall not restrict water delivery by greater than 50% of normal flow and shall provide the premise with a minimum of 5,000 gallons/month. The flow restrictor may be removed only by the utility, only after a 90-day period has elapsed and only upon payment of the appropriate removal charge of:

Connection Size	**Removal Charge**
5/8-inch to 1-inch	$ 100.00
1-1/2-inch to 2-inch	$ 300.00
3-inch and larger	$ Actual cost of plate install and removal + 100.00 administrative cost.

If, after the removal of the flow restrictor, any non-essential or unauthorized use of water shall continue, another flow restrictor may be installed and shall remain in place until water supply conditions warrant its removal and the appropriate charge for removal has been paid.

Stage 2 water rates would be 1.5 times the normal unit rate of $12.00, or $18.00, or as deemed necessary by the governing board.

Stage 3 – Emergency Stage

1. Jackpot Water System would declare a drought and water shortage emergency and use media relations to supplement efforts to keep customers informed.
2. Jackpot Water System would set rationing benchmarks for each customer class.
3. Jackpot Water System would inform customers of prohibited water uses (non-essential water uses, listed in Stage 1 are now prohibited).
4. Jackpot Water System would inform customers of penalties if prohibited measures are not observed (penalties are listed below).
5. Jackpot Water System would inform customers of rationing water fees.
6. Jackpot Water System would limit the use of fire hydrants to fire protection uses only.
7. Jackpot Water System would provide customers with retrofit kits either at cost or free.
8. Jackpot Water System would seek monetary assistance in an effort to mitigate the drought (e.g. federal funding).

Rationing benchmarks cannot be set until metering and water use monitoring is completed.

Penalties for violation of prohibited water use measures are:

1st violation – written warning.
2nd violation – $ 200.00
3rd violation – Restrictor plate installation mandatory.

Offenses for separate water use restriction violations will each start at the warning stage (1st violation) and the penalties for the offenses are in addition to the regular rate schedule charges.

A flow restrictor can be installed if the customer is non-responsive after the 1st violation. The flow restrictor shall not restrict water delivery by greater than 50% of normal flow and shall provide the premise with a minimum of 5,000 gallons/month. The flow restrictor may be removed only by the utility, only after a 90-day period has elapsed and only upon payment of the appropriate removal charge of:

Connection Size	**Removal Charge**
5/8-inch to 1-inch	$ 100.00
1-1/2-inch to 2-inch	$ 200.00
3-inch and larger	$ Actual cost of plate install and removal + 100.00 administrative cost.

If, after the removal of the flow restrictor, any non-essential or unauthorized use of water shall continue, another flow restrictor may be installed and shall remain in place until water supply conditions warrant its removal and the appropriate charge for removal has been paid.

If any customer seeks a variance from the provisions of Stage 3, then that customer shall notify Jackpot Water System in writing, explaining in detail the reason for such a variation. Jackpot Water System shall respond to each request.

Stage 3 water rates would be 2 times the normal unit rate of $12.00, or $24.00, or as deemed necessary by the governing board.

APPENDIX B
PUBLIC EDUCATION MATERIALS

There are several publications available for use at U.S. EPA website for general distribution (currently located at http://epa.gov/watersense/pubs/index.htm#ideas). These publications include such topics as:

- Simple Steps to Save Water,
- Ideas for Residences,
- Ideas for Commercial,
- Using Water Wisely In the Home,
- Outdoor Water Use in the US,
- Toilet Flush Facts,
- Watering Can Be Efficient,
- Irrigation Timers for the Homeowner, and
- Water Efficient Landscaping,

These publications can be utilized until Jackpot Water System develops system-specific publications.

There are also numerous website that provide tips for conserving water. One of these is: http://www.wateruseitwisely.com/100-ways-to-conserve/index.php. Customers can be directed to this website for tips to conserve water.

Specific tips for landscaping that can be provided to the customers are listed below. During drought conditions outdoor watering restrictions may be imposed, and therefore some of the following tips will not apply.

Tips for Landscaping

Watering:

- Detect and repair all leaks in irrigation systems.
- Use properly treated wastewater for irrigation where available.
- Water the lawn or garden during the coolest part of the day (early morning is best). Do not water on windy days.
- Water trees and shrubs, which have deep root systems, longer and less frequently than shallow-rooted plants which require smaller amounts of water more often. Check with the local nursery for advice on the amount and frequency of watering needed in your area.
- Set sprinklers to water the lawn or garden only—not the street or sidewalk.
- Use soaker hoses and trickle irrigation systems.
- Install moisture sensors on sprinkler systems.

Planting:

- Have your soil tested for nutrient content and add organic matter if needed. Good soil absorbs and retains water better.
- Minimize turf areas and use native grasses.
- Use native plants in your landscape—they require less care and water than ornamental varieties.
- Add compost or peat moss to soil to improve its water-holding capacity.

Maintaining:

- Use mulch around shrubs and garden plants to reduce evaporation from the soil surface and cut down on weed growth.
- Remove thatch and aerate turf to encourage movement of water to the root zone.
- Raise your lawn mower cutting height to cut grass no shorter than three inches—longer grass blades encourages deeper roots, help shade soil, cut down on evaporation, and inhibit weed growth.
- Minimize or eliminate fertilizing which requires additional watering, and promotes new growth which will also need additional watering.

Ornamental Water Features:

- Do not install or use ornamental water features unless they recycle the water. Use signs to indicate that water is recycled. Do not operate during a drought.

APPENDIX C
END-USER WATER SAVINGS

Here are just a few of the end-user water savings that could be realized:

Leaky Faucets

Issue: Leaky faucets that drip at the rate of one drip per second can waste more than 3,000 gallons of water each year.
Fix: If you're unsure whether you have a leak, read your water meter before and after a two-hour period when no water is being used. If the meter does not read exactly the same, you probably have a leak.

Leaky Toilets

Issue: A leaky toilet can waste about 200 gallons of water every day.
Fix: To tell if your toilet has a leak, place a drop of food coloring in the tank; if the color shows in the bowl without flushing, you have a leak.

Showering

Issue: A full bath tub requires about 70 gallons of water, while taking a five-minute shower uses 10 to 25 gallons.
Fix: If you take a bath, stopper the drain immediately and adjust the temperature as you fill the tub.

Brushing Teeth Wisely

Issue: The average bathroom faucet flows at a rate of two gallons per minute.
Fix: Turning off the tap while brushing your teeth in the morning and at bedtime can save up to 8 gallons of water per day, which equals 240 gallons a month!

Watering Wisely

Issue: The typical single-family suburban household uses at least 30 percent of their water outdoors for irrigation. Some experts estimate that more than 50 percent of landscape water use goes to waste due to evaporation or runoff caused by overwatering.
Fix: Drip irrigation systems use between 20 to 50 percent less water than conventional in-ground sprinkler systems. They are also much more efficient than conventional sprinklers because no water is lost to wind, runoff, and evaporation. If the in-ground system uses 100,000 gallons annually, you could potentially save more than 200,000 gallons over the lifetime of a drip irrigation system should you choose to install it. That adds up to savings of at least $1,150!

Washing Wisely

Issue: The average washing machine uses about 41 gallons of water per load.

Fix: High-efficiency washing machines use less than 28 gallons of water per load. To achieve even greater savings, wash only full loads of laundry or use the appropriate load size selection on the washing machine.

Flushing Wisely

Issue: If your toilet is from 1992 or earlier, you probably have an inefficient model that uses at least 3.5 gallons per flush.

Fix: New and improved high-efficiency models use less than 1.3 gallons per flush—that's at least 60 percent less than their older, less efficient counterparts. Compared to 3.5 gallons per flush toilet, a WaterSense labeled toilet could save a family of four more than $90 annually on their water bill, and $2,000 over the lifetime of the toilet.

Dish Washing Wisely

Issue: Running dishwasher partial full and pre-rinsing dishes before loading the dishwasher.

Fix: Run the dishwasher only when it's full and use the rinse-and-hold dishwasher feature until you're reading to run a full load. Pre-rinsing dishes does not improve cleaning and skipping this step can save you as much as 20 gallons per load, or 6,500 gallons per year. New water-saver dishwashers use only about 4 gallons per wash.

Estimated water savings from EPA Water Conservation Guidelines 1998 (Appendix B, Table B-1):

Type	Estimated Usage (gpcpd)	Conservation Usage (gpcpd)	Savings (gpcpd)	Savings (%)
Toilet	18.3	10.4	7.9	43 %
Clothes Washers	14.9	10.5	4.4	30 %
Showers	12.2	10.0	2.2	18 %
Faucets	10.3	10.0	.3	3 %
Leaks	6.6	1.5	5.1	77 %

Benchmarks from selected conservation measures from EPA Water Conservation Guidelines 1998 (Appendix B, Table B-4):

Category	Measure	Reduction of End Use (% or gpcpd)
Universal metering	Connection metering	20 %
	Sub metering	20 – 40 %
Costing and pricing	10% increase in residential prices	2 – 4 %
	10% increase in non-residential prices	5 – 8 %
	Increasing-block rate	5 %
Information and education	Public education and behavior changes	2 – 5 %
End-use audits	General industrial water conservation	10 – 20 %
	Outdoor residential use	5 – 10 %
	Large landscape water audit	10 – 20 %
Retrofits	Toilet tank displacement devices (for toilets using > 3.5 gallons/flush)	2 – 3 gpcpd
	Toilet retrofit	8 – 14 gpcpd
	Showerhead retrofit (aerator)	4 gpcpd
	Faucet retrofit (aerator)	5 gpcpd
	Fixture leak repair	0.5 gpcpd
	Governmental building (indoors)	5 %
Pressure management	Pressure reduction, system	3 – 6 % of total production
	Pressure-reducing valves, residential	5 – 30%
Outdoor water use efficiency	Low water-use plants	7.5 %
	Lawn watering guides	15 – 20 %
	Large landscape management	10 – 25%
	Irrigation timer	10 gpcpd
Replacements and promotions	Toilet replacement, residential	16 – 20 gpcpd
	Toilet replacement, commercial	16 – 20 gpcpd
	Showerhead replacement	8.1 gpcpd
	Faucet replacement	6.4 gpcpd
	Clothes washers, residential	4 – 12 gpcpd
	Dishwashers, residential	1 gpcpd
	Hot water demand units	10 gpcpd
Water-use regulation	Landscape requirements for new developments	10 – 20 % in sector
	Greywater reuse, residential	20 – 30 gpcpd